the lower Arkansas, escaping through unrepaired levees, did considerable damage to farm lands. Of these overflows the official in charge of the Weather Bureau office at Little Rock reports in part as follows:

If the levees had been intact no damage of consequence would have occurred, but water began going through a number of breaks before a stage of 20 feet had been reached at Georgetown. The water flowing through these breaks inundated 100,000 acres, about one-third of which was cultivated, and most of the highways in this section were under water * * *.

With a stage of 21.6 feet at Pine Bluff, on the Arkansas River, and about 15 feet at Memphis, water ran through the breaks at Southbend, Pendleton, and Medford, inundating about 100,000 acres, one-third of which was in crops. This is the fifth time this season this area has been inundated.

It is thought that water from the White destroyed 30,000 or more acres, and that from the Arkansas at least 33,000 acres, of crops; and as the value of the crops was probably more than $10 an acre, the combined losses through these overflows amounted to at least $630,000. No lives were lost and no loss of stock was reported. Owing to the previous floods there was little else to lose.

Report on the rise in the Osage River in August has not been received.

The flood in the Illinois River, report of which was deferred from the issues of this REVIEW for June and July, will be discussed in the special report of the great Mississippi River floods of this year.

River and station	Flood stage	Above flood stages—dates		Crest	
		From—	To—	Stage	Date
ATLANTIC DRAINAGE					
	Feet				*Feet*
Neuse: Smithfield, N. C	14	26	27	15.0	27
MISSISSIPPI DRAINAGE					
Tippecanoe: Norway, Ind	6	2	2	6.0	2
Smoky Hill:					
Mentor, Kans	22	14	21	25.8	17
Solomon, Kans	24	15	23	26.8	21
Solomon: Beloit, Kans	18	3	3	20.5	3
		18	18	20.1	18
		23	26	24.5	26
Blue: Blue Rapids, Kans	20	8	9	23.6	9
		13	15	23.0	14
Osage:					
Osceola, Mo	20	8	12	27.9	10
		16	24	28.5	20
Warsaw, Mo	22	9	13	31.8	10
		18	24	25.9	21
Tuscumbia, Mo	25	10	15	30.5	13
		22	24	25.4	23
Arkansas:					
Fort Lyon, Colo	6			8.2	3
Dodge City, Kans	5	5	5	5.3	5
Great Bend, Kans	5	3	7	6.3	7
		13	13	5.8	13
		16	17	6.0	17
Wichita, Kans	9	14	22	13.5	17
Arkansas City, Kans	15	4	4	16.1	4
		17	22	17.2	20
Webbers Falls, Okla	23	6	6	23.2	6
Dardanelle, Ark	20	8	8	20.0	8
Little Arkansas: Sedgwick, Kans	18	15	17	23.2	16
		27	28	19.8	28
Neosho:					
Oswego, Kans	17	10	10	18.8	10
		15	22	22.1	18
Wyandotte, Okla	23	18	19	25.8	18
Fort Gibson, Okla	22	20	20	22.5	20
Cottonwood:					
Elmdale, Kans	32	18	18	32.5	18
Emporia, Kans	20	17	20	22.5	19
Cimarron: Perkins, Okla	11	4	4	12.2	4
Canadian: Logan, N. Mex	4			5.0	5
North Canadian:					
Woodward, Okla	4	3	6	5.1	4,6
Oklahoma City, Okla	12	10	10	12.0	10
Petit Jean: Danville, Ark	20	11	12	20.2	11
White:					
Calico Rock, Ark	18	17	19	24.8	17
Batesville, Ark	23	18	20	29.3	19
Newport, Ark	26	19	22	27.4	21
Georgetown, Ark	22	24	24	22.0	24
Black:					
Corning, Ark	11	16	21	12.1	18
Black Rock, Ark	14	18	22	15.0	19
WEST GULF DRAINAGE					
Rio Grande:					
San Marcial, N. Mex	2			3.7	25

MEAN LAKE LEVELS DURING AUGUST, 1927

By UNITED STATES LAKE SURVEY

[Detroit, Mich., September 6, 1927]

The following data are reported in the "Notice to Mariners" of the above date:

Data	Lakes [1]			
	Superior	Michigan and Huron	Erie	Ontario
Mean level during August, 1927:	*Feet*	*Feet*	*Feet*	*Feet*
Above mean sea level at New York	602.77	579.46	572.01	245.77
Above or below—				
Mean stage of July, 1927	+0.08	−0.09	−0.15	−0.24
Mean stage of August, 1926	+1.75	+0.85	+0.71	+0.78
Average stage for August last 10 years	+0.59	−0.85	−0.30	−0.29
Highest recorded August stage	−1.16	−4.05	−2.10	−2.49
Lowest recorded August stage	+1.75	+1.02	+0.93	+1.42
Average departure (since 1860) of the August level from the July level	+0.11	−0.05	−0.18	−0.30

[1] Lake St. Clair's level: In August, 1927, 574.74 feet.

EFFECT OF WEATHER ON CROPS AND FARMING OPERATIONS, AUGUST, 1927

By J. B. KINCER

General summary.—Temperatures during the month tended to subnormal generally and retarded development of warm-weather crops considerably. During the first decade there was too frequent rain for cotton in the Southeast, while in the central Great Plains and more east-central areas beneficial showers occurred. Warm weather in southern sections promoted rapid growth, while farm work proceeded satisfactorily in more northern portions. The weather in northern areas was generally cool, but no materially harmful temperatures occurred, except that some more or less local frost damage was noted in parts of the upper western Lake region. It remained generally cool for the season in northern States east of the Rocky Mountains, but the South had warmer than normal weather.

The continuation of cool weather during the last decade east of the Rocky Mountains materially retarded warm-weather crops and higher temperatures were generally needed. Showers to generous rainfall, however, relieved the drought in some sections of the central-northern portions and in the Southwest; from western Texas westward showers were beneficial, but in other parts, including much of Texas, it continued too dry. There was considerable frost damage to tender vegetation in some parts of the Central Northern States, particularly on lowlands of Wisconsin and Minnesota, with some light frost in parts of Iowa. At the close of the month rain was still badly needed in much of Texas and also in most sections from Michigan to Minnesota, but elsewhere east of the Rocky Mountains the soil was in mostly good condition with fall plowing progressing rapidly in many places and some seeding of winter grains begun in the West. West of the Rocky Mountains conditions continued generally favorable, especially in the Pacific Northwest, though moisture was needed in some sections.

Small grains.—The threshing of winter grains made good progress under generally favorable weather the first part of the month, and in the spring wheat belt the cool, fair weather made exceptionally good conditions for harvest. Late spring wheat was badly damaged by rust in Minnesota, and there was considerable rust

development in some parts of North Dakota, but the crop in the latter State was too far advanced for serious damage. There was considerable interruption by rain to harvesting in the Rocky Mountain districts the first part of the second decade, and some unthreshed wheat in shock was rather badly damaged in parts of the Great Plains. In the spring wheat belt cutting and threshing made mostly satisfactory advance.

Toward the close of the second decade more favorable conditions for harvest prevailed and late threshing made good progress; there was some delay to harvest by rain in the spring wheat region, but this work made generally good advance. Threshing spring wheat made good progress the latter part of the month, under mostly favorable weather conditions, with only slight interruption by rainfall. Spring wheat had been mostly harvested at the close, except in some of the later districts. Plowing for fall seeding advanced rapidly with seeding well along in parts of Kansas.

Oat harvest had been completed during the first decade as far north as Iowa and in the East was well along to Pennsylvania; damage by rust was greater than anticipated in some parts of the northern plains and yields were disappointing in some interior sections. Rice harvest progressed favorably and grain sorghums were in good condition, but cool weather at the close of the month retarded maturity.

Corn.—The corn crop needed warm weather quite generally over northern portions during most of the month. The weather was too cool for best progress of the crop during the first decade over most of the main Corn Belt and generally in northern sections east of the Rocky Mountains, although it made mostly fair to very good advance. Beneficial rains occurred in some previously droughty areas and in Iowa progress was excellent where the rainfall was sufficient; in other States west of the Mississippi River growth was mostly good to excellent. Moisture conditions were quite favorable during the second decade and rains in Iowa were very beneficial; elsewhere in the West progress was again satisfactory, but rain was badly needed in some north-central border States and for late corn in the west Gulf area, as well as locally in the Southeast. Because of the continued cool weather, corn made slow progress in much of the principal producing area the latter part of the month. The crop was very late at the close and needed dry, warm weather to hasten maturity; damage by frost was reported on some lowlands of the Central Northern States. In Iowa advance of the crop was fair, but the condition varied greatly, ranging from very poor to very good, and was fully two weeks later than normal.

Cotton.—Temperatures were generally favorable in the Cotton Belt the first part of the month, but there was too much rain in most of the Atlantic Coast States, parts of the central belt, and in the Northwest. Weevil activity was favored by showers in the east, but progress of the crop was fair to very good in central portions. There were some complaints of rank growth and shedding in parts of Arkansas, and rains were unfavorable in portions of Oklahoma with condition in the eastern part of the State dependent on weevil activity. Weevil were held in check in Texas by warm days and abundant sunshine, but there was some shedding and poor development reported.

During the second decade weevil activity increased in the east and some increase was also noted in central portions where there were local complaints of bolls shedding and rotting. In Louisiana advance was poor due to shedding and increased weevil activity, but in Arkansas progress was very good, except for too rank growth in parts. Growth continued fair in Oklahoma, although weevil spread somewhat; in Texas conditions were favorable for reduced weevil activity, but there were complaints of shedding and premature opening.

Deterioration continued in some Atlantic Coast States the latter part of the month because of weevil or dryness and shedding; progress varied in central areas, but was mostly poor to only fair. Weevil continued active in Louisiana with a top crop impossible in most portions; cool, damp weather and weevil made advance very poor to only fair in parts of Arkansas, while in Oklahoma cool, cloudy weather was unfavorable with the progress of cotton ranging from deterioration in some eastern areas to good in the west. In Texas, advance was good in the northwest and portions of the west, but elsewhere there was further deterioration because of shedding, premature opening, root rot, and plants dying, with considerable damage by bollworms and weevil.

Ranges, pastures, and livestock.—Serious drought prevailed in the western upper Lake region, and at the close of the month there was need of rain over large parts of the Gulf States and in Oregon and Nevada. There was some delay to haying by showers during the month, with damage to cut hay and alfalfa quite general in the West the first part of the month. Alfalfa seed harvest continued in Arizona at the close, but in Utah most of the seed crop was late and not promising. Livestock continued in fine condition over most of the country.

Miscellaneous crops.—Except for some blight of potatoes in New York and too dry conditions in the western lake region, this crop did well generally the first part of the month, but toward the close there was some frost injury in the northern portions of North Dakota and Minnesota in fields where frost forms most readily. Truck crops were mostly satisfactory, except that they needed rain in most parts of the Gulf States and warmth in the Northeast. Rain was needed for tobacco in Kentucky as well as warmth for best progress elsewhere. Sugar cane in Louisiana did well generally and sugar beets advanced satisfactorily.